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Patent  
Attorney Docket No. PIL8015.011

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Wiseman, Donald H.  
Serial No. : 10/707,909  
Filed : January 23, 2004  
For : CRYSTAL GROWER WITH INTEGRATED LITZ COIL  
Group Art No. : 1765  
Examiner : Kunemund, R.

CERTIFICATION UNDER 37 CFR 1.8(a) and 1.10

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**REPLY BRIEF RESPONSIVE TO EXAMINER'S ANSWER**  
**MAILED JULY 17, 2006**

Dear Sir:

This Reply Brief is being filed in response to the Examiner's Answer mailed July 17, 2006.

Wiseman, Donald H.

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Claims 1-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Haldeman (USP 5,461,215) in view of Ammon et al. (USP 6,117,230). In the Examiner's Answer mailed July 17, 2006, the Examiner maintained the rejection of claims 1-28 and dismissed Appellant's arguments set forth in the Appeal Brief of August 15, 2005. In response, Appellant would like to address some of the comments made by the Examiner and reiterate some of the arguments that seem to have been misconstrued.

In the Appeal Brief of August 15, 2005, Appellant argued that there is insufficient motivation or suggestion to combine the teachings of Haldeman and Ammon et al., and that the combination thereof is the result of impermissible hindsight as based on Appellant's application. Furthermore, Appellant argued that, in fact, there are portions of the references that teach away from the current invention. That is, Appellant argued that Haldeman discloses a flexible induction coil designed for use in "different induction heating applications by merely re-orienting the turns without completely re-constructing the coil for each new work piece." *Haldeman, Col. 3, lns. 58-64*. As such, Appellant argued that the teachings of Haldeman are contrary to that which is called for in the current invention, which includes a housing positioned about the induction heater of the crystal growing apparatus.

In response to Appellant's arguments regarding this teaching away from the current invention, the Examiner stated that "[t]he Haldeman reference is merely teaching that a Litz coil can be made of various shapes and sizes" and that "[t]he reference at no point teaches or suggests that the Litz coils change shape during heating and or [sic] not stable." *Examiner's Answer, July 17, 2006, p. 5*. Appellant is not suggesting that the Litz coil of Haldeman changes shape during heating. Rather, Appellant points out that a housing positioned about the induction heater, as called for in claim 1 and shown in Fig. 5 of the current application, would not allow the induction heater of Haldeman to be easily repositioned, either during or after completion of a heating process. Positioning a housing about the induction heater of Haldeman, as called for in claim 1, renders the coils of the induction heater of Haldeman incapable of such re-orientation. Were the induction coil of Haldeman reconfigured to have a housing positioned about it, it would not be possible to use the coil for different induction heating applications by merely re-orienting the turns. Rather, it would require a lengthy process of completely removing the coil from the housing, which renders the design of the coil disclosed in Haldeman unbeneficial. Thus, in stating that the coils are constructed to be re-oriented and that encapsulation of the coil is not necessary, Haldeman teaches away from a housing positioned about the induction heater as called

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for in claim 1. The Examiner's assertion that "it would have been obvious to one of ordinary skill in the art to modify the Haldeman reference by the teachings of the Ammon et al [sic] reference to include a housing in order to prevent the heater from deforming and creating impurities in the process" is not supported by the disclosure of Haldeman. *Id. at 3.*

The Examiner also rejected Appellant's arguments regarding the failure of Haldeman and Ammon et al. to disclose all of the elements called for in the current claims. Specifically, Appellant argued that the cited references fail to disclose specific elements called for in claims 6, 7, 9, 12-14, 17 and 21.

Claim 6 calls for, in part, a housing positioned about the hose of claim 5 and having at least one leg constructed to be attached to the hose. Claim 7 calls for, in part, at least one cable tie mount to pass through the leg and connect to the hose. Responsive to Appellant's arguments regarding these claims, the Examiner stated that these elements are "merely a means to allow for support of and connection to the heater." *Examiner's Answer, supra at 6.* That may be, but such a conclusion surely does not render the claim at issue to be legally obvious over the art. The Examiner's assertion indicates a misguided belief that structure for support and/or connection are inherently unpatentable, without citing any supportable basis for such an astounding position. The Examiner further stated that "clearly it would have been well within the skill of the art to include means in the prior art to support and connect to the heaters" and that "one of skill in the art would recognize that there must be means to support and connect the heaters shown in the drawings of the references." *Id. at 6-7.* As previously stated in the Appeal Brief, the references fail to teach, disclose or suggest a structure comparable to the support leg and cable-tie called for in claims 6 and 7. It is well established that to support a prima facie obviousness rejection, it is the Examiner's burden to establish that the reference, or references when combined, teach or suggest all the claim limitations. *See MPEP 2143.* It is not enough to merely assert that one of skill in the art would find inclusion of the claimed elements to be obvious.

Furthermore, it is illogical for the Examiner to assert that "there must be means to support and connect the heaters" in the manner called for in claims 6 and 7. That is, Haldeman teaches an induction heater that is deformable to various orientations and "which can be deformed elastically to provide a long stretched out solenoid or a short multi-turn coil." *Haldeman, Col. 4 ln. 67 to Col. 5, ln. 2.* Thus, not only does Haldeman fail to teach, suggest, or disclose a leg attached to the hose of the induction coil or a cable tie, Haldeman actually teaches away from the use of such an encasement or tie-down. As such, Appellant believes that claims 6 and 7 are clearly patentably distinct over Haldeman and Ammon et al., individually or in combination.

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Claim 9 similarly calls for, in part, an induction heater having at least one support leg extending along a coiled portion of the casing and constructed to retain the casing in a coiled position. In response to Appellant's argument set forth in the Appeal Brief regarding the references' failure to disclose such an element, the Examiner stated that "the combination of references, which is applied against the claims, uses the heater of Haldeman" and that it would have been obvious to use the support of Ammon et al. because "one of ordinary skill in the art would change and know to change the heater set up like the supports...." *Examiner's Answer, supra at 7*.

Despite Examiner's continued assertions to the contrary, the references fail to teach, disclose, or suggest a structure comparable to the support leg called for in claim 9. Haldeman teaches an induction heater that is deformable to various orientations. Thus, the induction heater of Haldeman clearly does not include a support leg extending along a coiled portion of the casing and constructed to retain the casing in a coiled position. Furthermore, the teachings of Ammon et al., when combined with Haldeman, cannot simply be "changed," as the Examiner asserts, in order to render the current claim obvious. The teachings of Ammon et al. simply do not disclose a support leg as called for in claim 9. As previously stated in the Appeal Brief, the supports disclosed in Ammon et al. extend from the turns of the induction heater in order to engage the base plate which is generally parallel to the induction heater. The support elements of Ammon et al. do not extend along the coiled portion of the induction heater. Furthermore, the support element of Ammon et al. extends generally perpendicular to a direction along the coiled portion of the induction heater and does not retain the coiled position of the induction heater. This is not what is called for in claim 9. As stated above, claim 9 calls for a support leg that extends along a coiled portion of the coil casing and is constructed to retain the casing in a coiled position.

Thus, the cited references fail to teach, disclose, or suggest all of the elements set forth in claim 9. As such, Appellant believes claim 9 is patentably distinct over Haldeman in view of Ammon et al. Appellant also believes claims 10-16 are in condition for allowance at least pursuant to the chain of dependency.

The Examiner has made similar assertions regarding claims 12-14, stating multiple times that an element called for in those claims is "well within the skill of the art" or is "well known." *Id. at 7*. It is never appropriate to rely solely on "common knowledge" in the art, or to state that a claim element is "well known", without evidentiary support in the record and as the principal evidence upon which a rejection is based. *In re Zurko*, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). In the rejection of claims 12-14, the Examiner has done exactly that. In doing so, the Examiner appears to either be dismissing the elements of these claims as



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"unimportant," or alternatively, is unable to provide evidentiary support for the assertion that such elements are "well known" in the art. Even assuming *arguendo* that the Examiner were to provide such support, a structure configured to attach to or retain the casing of the Litz wire, as called for in the current claims, would be opposed to the teaching and disclosure of Haldeman, as explained above. Thus, not only has the Examiner failed to provide evidentiary support for the assertion that the elements of claims 12-14 are well known, but even were the Examiner to show such evidence that supported the Examiner's assertion, such a teaching or disclosure would teach away from the Haldeman reference. As such, claims 12-14 are patentably distinct over the cited references.

Appellant also previously argued that, regarding claim 17, the art of record fails to provide the requisite motivation to combine the references in the manner done by the Examiner, and that the combination thereof fails to teach, suggest, or disclose each and every element as called for in claim 17. Responsive thereto, the Examiner stated that claim 17 "merely recites attaching a leg to a Litz coil after forming the heater" and that "[i]t would have been obvious to one of ordinary skill in the art to attach a leg for stability." *Examiner's Answer, supra at 7-8*. This response by the Examiner still fails to address the substance of Appellant's arguments. That is, as explained previously, there is no motivation to attach a housing or support leg to the coil of Haldeman to maintain a coiled orientation. Such a housing or leg would prevent the coil from being re-oriented for different induction heating operations.

Furthermore, claim 17 calls for, in part, attaching at least one leg to the coiled portion of a Litz coil to maintain a coiled orientation of the coiled portion of the Litz coil. Such a construction is not taught, suggested, or disclosed in the art of record, as the support disclosed in Ammon et al. does not maintain a coiled orientation of the Litz coil as explained in detail in the Appeal Brief. Accordingly, Appellant believes that which is called for in claim 17 is patentably distinct over the art of record, and that therefore, claims 18-20 are in condition for allowance as well, at least pursuant to the chain of dependency.

The Examiner finally rejected Appellant's argument regarding claim 21, stating that "the combination of references teaches a Litz coil heater in a seed puller with a housing around everything including the heater." *Id. at 8*. Claim 21 calls for a coil of wire that is wound about a vessel and held in a coiled position by a housing formed thereabout. As argued above with respect to claim 17, Haldeman fails to disclose positioning any housing about the induction heater thereof. In fact, in disclosing that the induction heater is deformable to allow heating of a plurality of parts having a different shapes and sizes, Haldeman teaches away from any extraneous retention of the induction heater. Furthermore, and as explained in detail in the

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Appeal Brief, it is the material, and not any housing of Ammon et al., that maintains the heater disclosed therein in a coiled position. This is not what is called for in claim 21. As stated above, claim 21 calls for a coil of wire that is wound about a vessel and held in a coiled position by a housing formed thereabout. The construction called for in claim 21 is not taught, shown, disclosed, or suggested in the art of record. Accordingly, Appellant believes that which is called for in claim 21 is patentably distinct over Haldeman in view of Ammon et al.

In summary, Appellant believes that the Examiner has failed to show how the teachings and disclosure of the prior art renders the current invention obvious. Appellant has clearly set forth why, not only is there no motivation to combine the references as suggested by the Examiner, but additionally that the combination thereof still fails to teach, disclose, or suggest that which is called for in the current claims.

In view of the above remarks, Appellant respectfully submits that claims 1-28 are clearly patentably distinct over the art of record. Accordingly, Appellant respectfully requests that the Board direct that the outstanding rejections reliant in whole or in part on Haldeman and Ammon et al. be withdrawn and direct the present application be passed to issuance.

Respectfully submitted,

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